APPENDIX (III)

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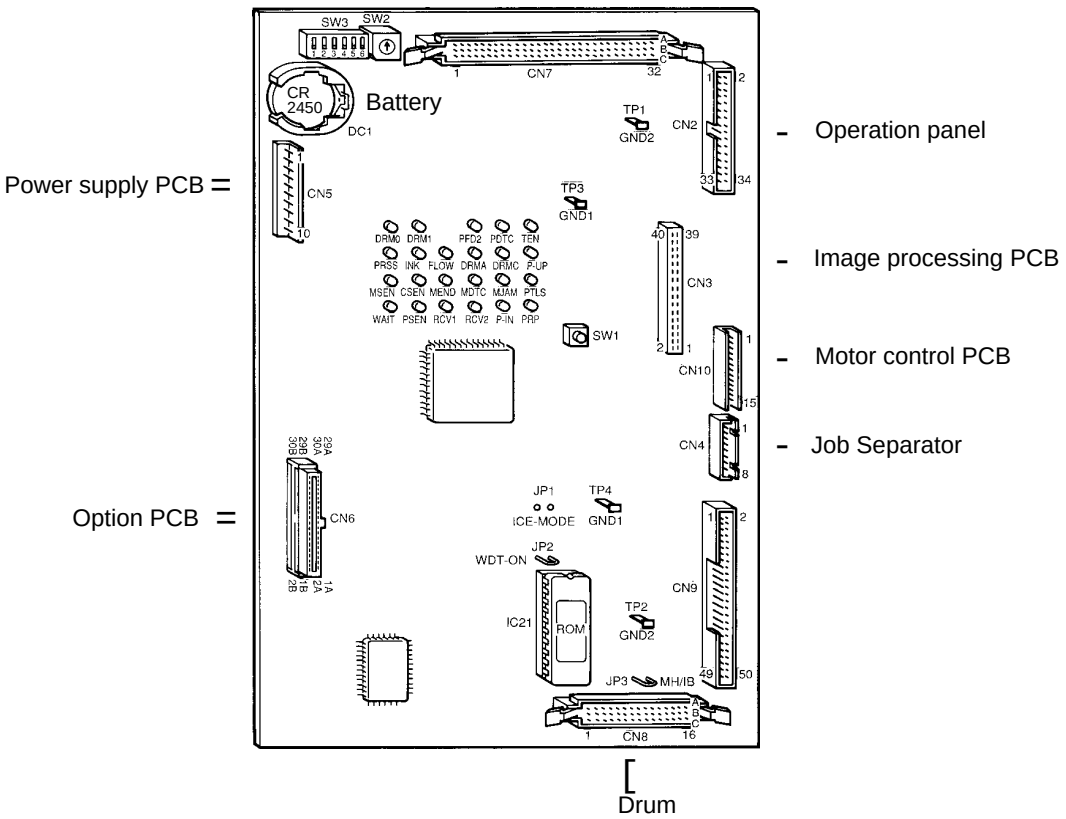
2. Integral Circuit Diagrams

1. Integral Circuit Diagram (RA4200)
2. Integral Circuit Diagram (RA4900)
3. Integral Circuit Diagram (RA5900)

6. System PCB



SW

SW1 : Drum (Main Motor) 30 rpm

SW2 : Machine Selection HEX SW

SW	Sheet Type	Flat Bed Type
0	Not Used	Not Used
1	Not Used	Not Used
2	Not Used	Not Used
3	**RA4050(B4)**	Not Used
4	**RA4200(B4)**	**RA4300(B4)**
5	**RA4900(B4)**	Not Used
6	Not Used	**RA5900(B4)**
7	**RA4050(A4)**	Not Used
8	**RA4200(A4)**	**RA4300(A4)**
9	**RA4900(A4)**	Not Used
A	Not Used	**RA5900(A4)**
B	**RA4050(Legal)**	Not Used
C	**RA4200(Legal)**	**RA4300(Legal)**
D	**RA4900(Legal)**	Not used
E	Not Used	**RA5900(Legal)**
F	Not Used	Not Used

SW3 : Machine Selection DIP SW

Sheet Type: (RA4050, 4200 & 4900)

SW	OFF	ON
1	●	
2	●	
3	●	
4	●	
5	●	
6	●	

Flat-bed Type: (RA4300 & 5900)

SW	OFF	ON
1		●
2	●	
3	●	
4	●	
5	●	
6	●	

6. System PCB

LED

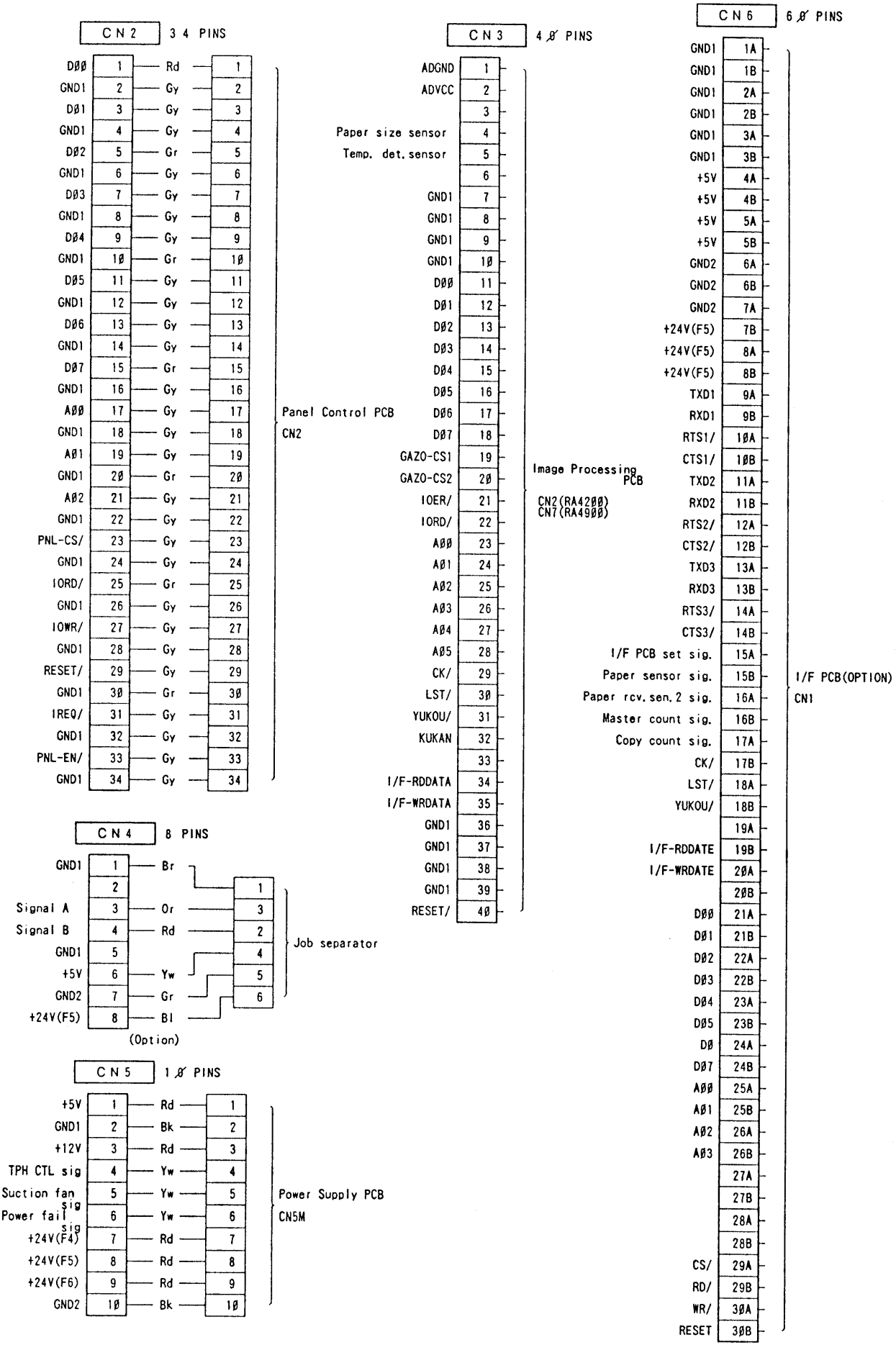
LED	Sensor Name	When LED is ON
DRM0	0° Angular Sensor	Magnetism is detected.
DRM1	180° Angular Sensor	Magnetism is detected.
PFD2	Paper Feed Clutch Sensor	Light path is blocked.
PDTC	Paper Detection Sensor	Reflected light detected.
TEN	Vertical Centering Sensor	Light path is blocked.
PRSS	Pressure Detection Sensor	Light path is blocked.
INK	Ink Sensor	Ink is not detected.
FLOW	Overflow Sensor	Ink is not detected.
DRMA	Position A Sensor	Light path is blocked.
DRMC	Position C Sensor	Light path is blocked.
P-UP	Elevator Upper Limit Sensor	Light path is opened (actuator pressed).
MSEN	Master Sensor	Reflected light (Master) detected.
CSEN	Master Loading Sensor	Reflected light (Master) detected.
MEND	Master End Sensor	Reflected light (Master) detected.
MDTC	Master Detection Sensor	Reflected light (Master) not detected.
MJAM	Master Removal Sensor	Light path is blocked. (Master detected.)
PTLS	Paper Size Detection Sensor	Reflected light detected. (Paper detected.)
WAIT	Master Positioning Sensor	Reflected light (Master) not detected.
PSEN	Paper Sensor	Light path is blocked. (Paper detected.)
RCV1	Paper Receiving Sensor 1	Light path is blocked. (Paper detected.)
RCV2	Paper Receiving Sensor 2	Light path is blocked. (Paper detected.)
P-IN	Paper Feed Detection Sensor	Light path is blocked. (Paper detected.)
PRP	Pressure Control Sensor	Light path is opened.

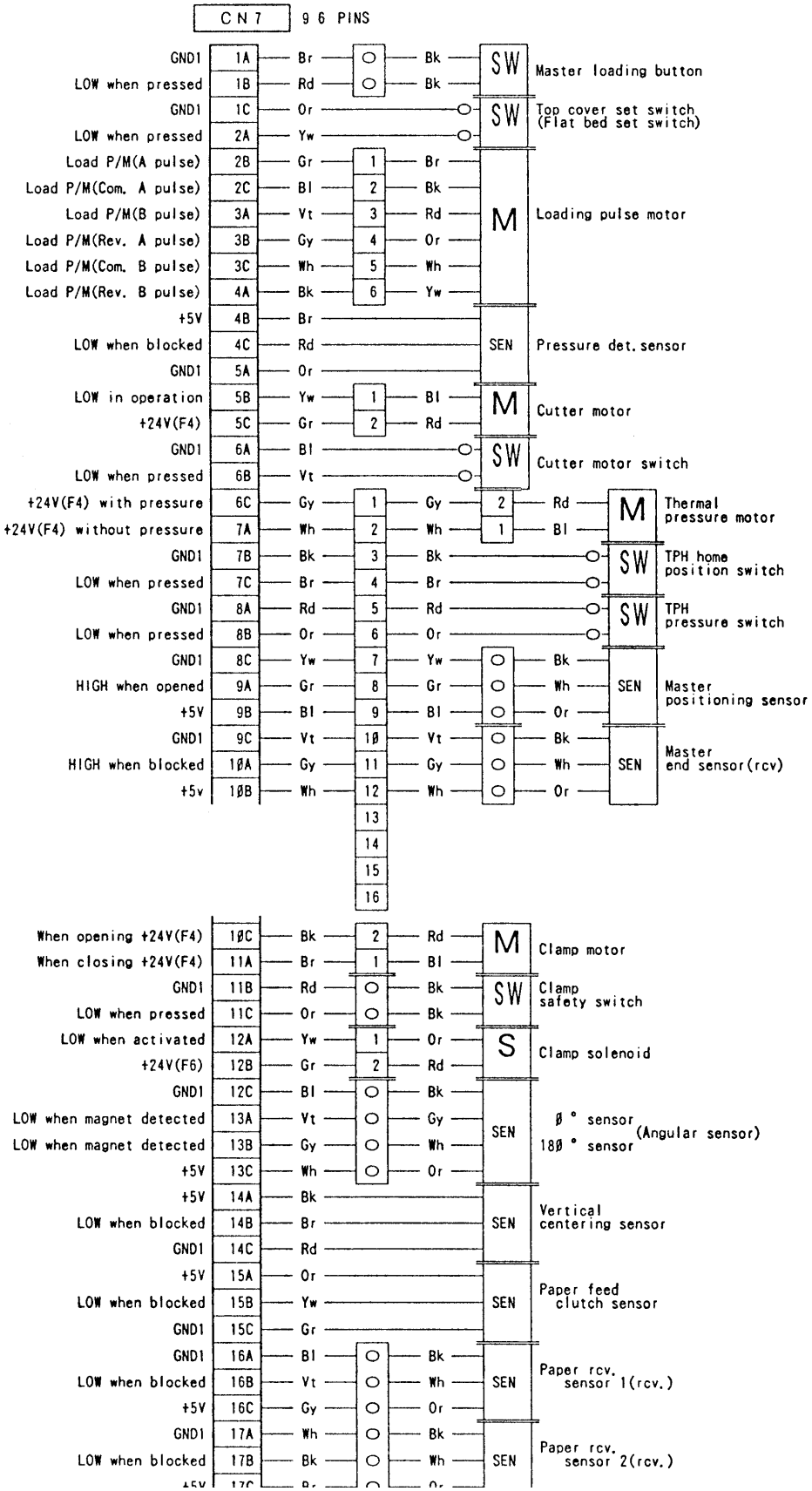
TP

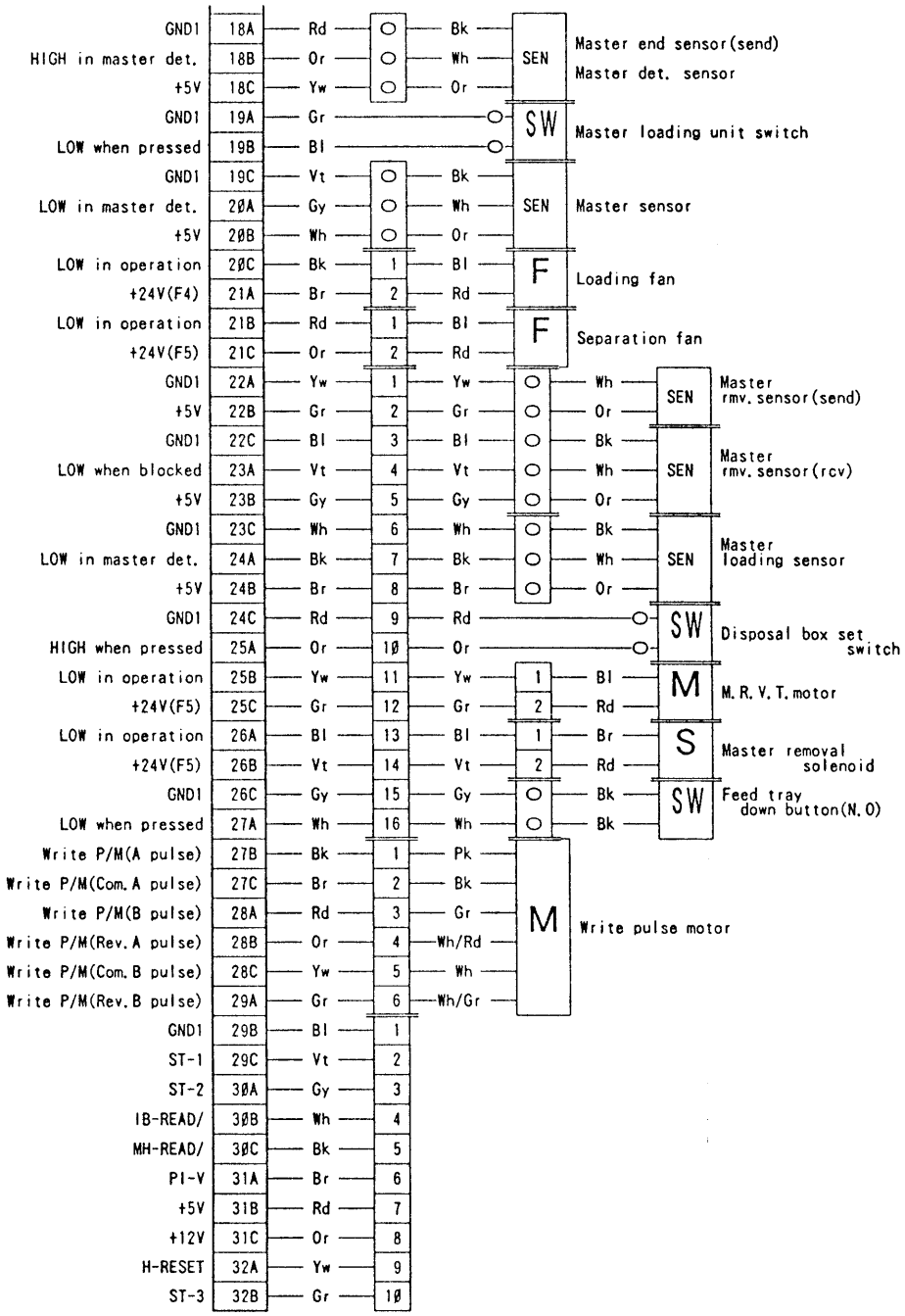
TP1 (GND2)	Ground for 24V lines.
TP2 (GND2)	Ground for 24V lines.
TP3 (GND1)	Ground for 5V lines.
TP4 (GND2)	Ground for 5V lines.

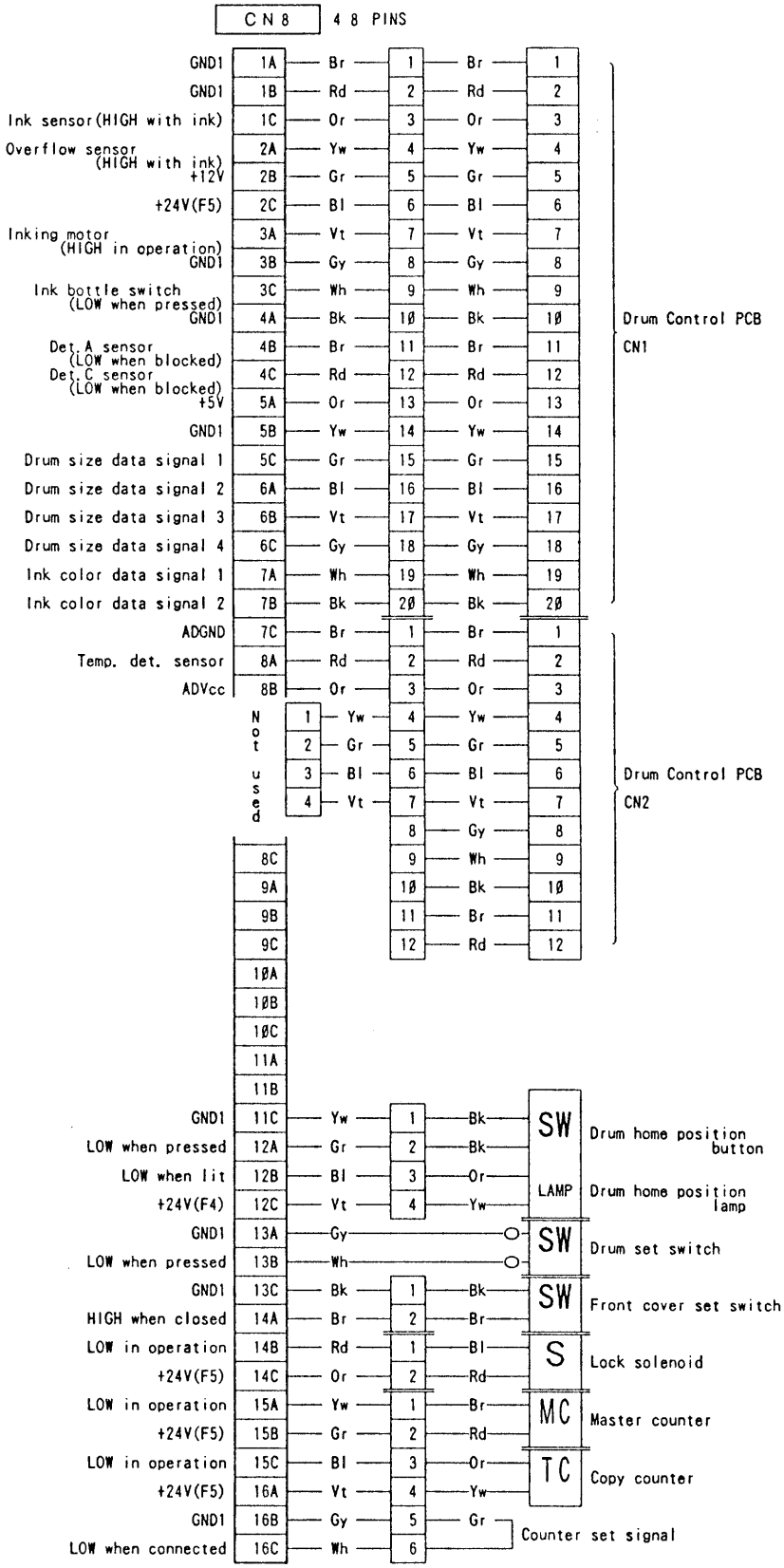
BATTERY

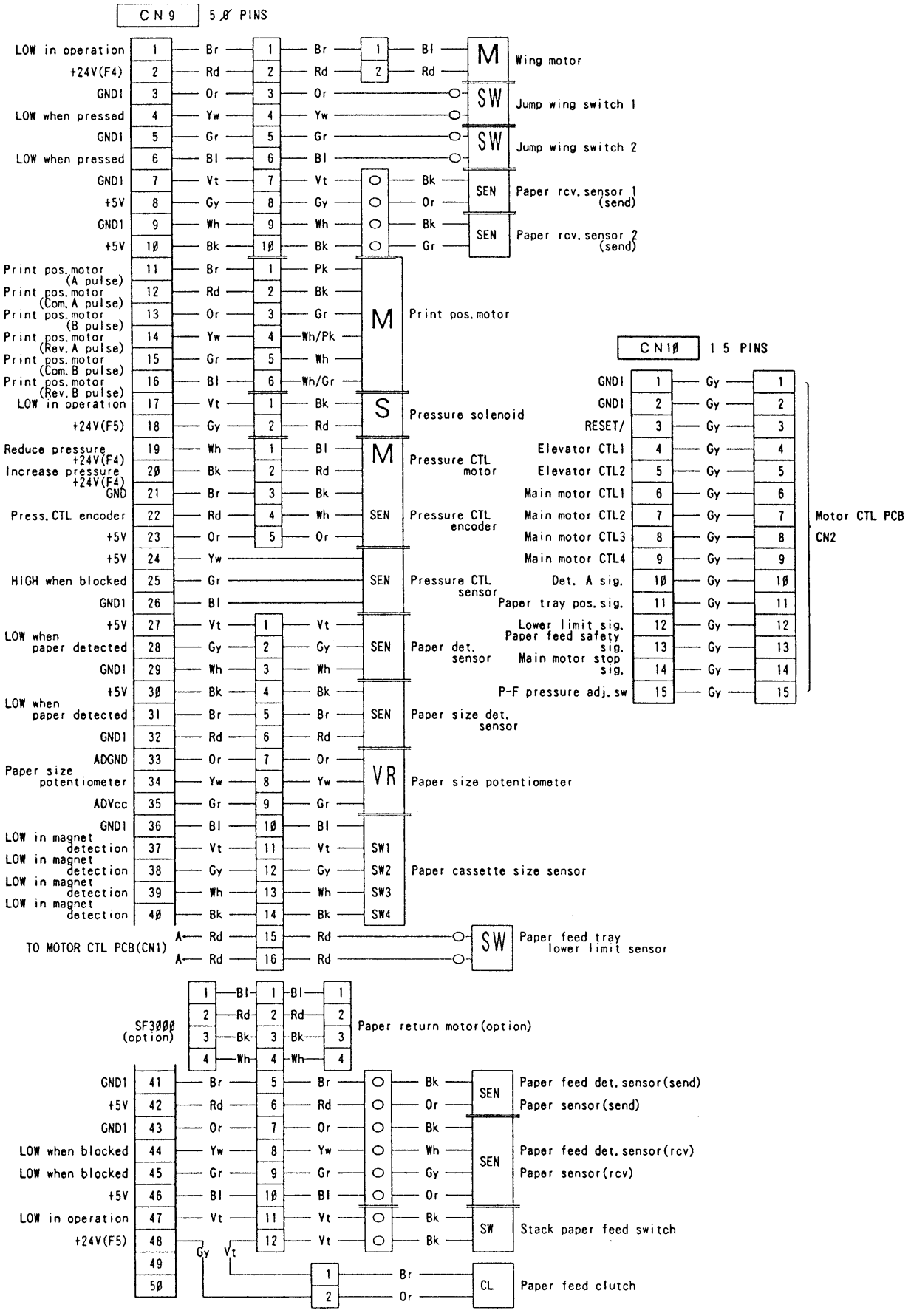
CR2450	1 piece


CN2 34 PINS
DØØ 1 Rd 1
GND1 2 Gy 2
DØ1 3 Gy 3
GND1 4 Gy 4
DØ2 5 Gr 5
GND1 6 Gy 6
DØ3 7 Gy 7
GND1 8 Gy 8
DØ4 9 Gy 9
GND1 1Ø Gr 1Ø
DØ5 11 Gy 11
GND1 12 Gy 12
DØ6 13 Gy 13
GND1 14 Gy 14
DØ7 15 Gr 15
GND1 16 Gy 16
AØØ 17 Gy 17
GND1 18 Gy 18
AØ1 19 Gy 19
GND1 2Ø Gr 2Ø
AØ2 21 Gy 21
GND1 22 Gy 22
PNL-CS/ 23 Gy 23
GND1 24 Gy 24
IORD/ 25 Gr 25
GND1 26 Gy 26
IOWR/ 27 Gy 27
GND1 28 Gy 28
RESET/ 29 Gy 29
GND1 3Ø Gr 3Ø
IREQ/ 31 Gy 31
GND1 32 Gy 32
PNL-EN/ 33 Gy 33
GND1 34 Gy 34
Panel Control PCB
CN2
CN3 4Ø PINS
ADGND 1
ADVCC 2
3
Paper size sensor 4
Temp. det. sensor 5
6
GND1 7
GND1 8
GND1 9
GND1 1Ø
DØØ 11
DØ1 12
DØ2 13
DØ3 14
DØ4 15
DØ5 16
DØ6 17
DØ7 18
GAZO-CS1 19
GAZO-CS2 2Ø
IOER/ 21
IORD/ 22
AØØ 23
AØ1 24
AØ2 25
AØ3 26
AØ4 27
AØ5 28
CK/ 29
LST/ 3Ø
YUKOU/ 31
KUKAN 32
33
I/F-RDDATA 34
I/F-WRDATA 35
GND1 36
GND1 37
GND1 38
GND1 39
RESET/ 4Ø
Image Processing PCB
CN2(RA42ØØ)
CN7(RA49ØØ)
CN6 6Ø PINS
GND1 1A
GND1 1B
GND1 2A
GND1 2B
GND1 3A
GND1 3B
+5V 4A
+5V 4B
+5V 5A
+5V 5B
GND2 6A
GND2 6B
GND2 7A
+24V(F5) 7B
+24V(F5) 8A
+24V(F5) 8B
TXD1 9A
RXD1 9B
RTS1/ 1ØA
CTS1/ 1ØB
TXD2 11A
RXD2 11B
RTS2/ 12A
CTS2/ 12B
TXD3 13A
RXD3 13B
RTS3/ 14A
CTS3/ 14B
I/F PCB set sig. 15A
Paper sensor sig. 15B
Paper rcv. sen. 2 sig. 16A
Master count sig. 16B
Copy count sig. 17A
CK/ 17B
LST/ 18A
YUKOU/ 18B
19A
I/F-RDDATE 19B
I/F-WRDATE 2ØA
2ØB
DØØ 21A
DØ1 21B
DØ2 22A
DØ3 22B
DØ4 23A
DØ5 23B
DØ 24A
DØ7 24B
AØØ 25A
AØ1 25B
AØ2 26A
AØ3 26B
27A
27B
28A
28B
CS/ 29A
RD/ 29B
WR/ 3ØA
RESET 3ØB
I/F PCB(OPTION)
CN1
CN4 8 PINS
GND1 1 Br 1
2
Signal A 3 Or 3
Signal B 4 Rd 2
GND1 5 4
+5V 6 Yw 5
GND2 7 Gr 6
+24V(F5) 8 Bl
(Option)
Job separator
CN5 1Ø PINS
+5V 1 Rd 1
GND1 2 Bk 2
+12V 3 Rd 3
TPH CTL sig 4 Yw 4
Suction fan sig 5 Yw 5
Power fail sig 6 Yw 6
+24V(F4) 7 Rd 7
+24V(F5) 8 Rd 8
+24V(F6) 9 Rd 9
GND2 1Ø Bk 1Ø
Power Supply PCB
CN5M


CN7 96 PINS
GND1 1A Br Bk SW Master loading button
LOW when pressed 1B Rd Bk
GND1 1C Or SW Top cover set switch (Flat bed set switch)
LOW when pressed 2A Yw
Load P/M(A pulse) 2B Gr 1 Br M Loading pulse motor
Load P/M(Com. A pulse) 2C Bl 2 Bk
Load P/M(B pulse) 3A Vt 3 Rd
Load P/M(Rev. A pulse) 3B Gy 4 Or
Load P/M(Com. B pulse) 3C Wh 5 Wh
Load P/M(Rev. B pulse) 4A Bk 6 Yw
+5V 4B Br SEN Pressure det. sensor
LOW when blocked 4C Rd
GND1 5A Or
LOW in operation 5B Yw 1 Bl M Cutter motor
+24V(F4) 5C Gr 2 Rd
GND1 6A Bl SW Cutter motor switch
LOW when pressed 6B Vt
+24V(F4) with pressure 6C Gy 1 Gy 2 Rd M Thermal pressure motor
+24V(F4) without pressure 7A Wh 2 Wh 1 Bl
GND1 7B Bk 3 Bk SW TPH home position switch
LOW when pressed 7C Br 4 Br
GND1 8A Rd 5 Rd SW TPH pressure switch
LOW when pressed 8B Or 6 Or
GND1 8C Yw 7 Yw Bk SEN Master positioning sensor
HIGH when opened 9A Gr 8 Gr Wh
+5V 9B Bl 9 Bl Or
GND1 9C Vt 10 Vt Bk SEN Master end sensor(rcv)
HIGH when blocked 10A Gy 11 Gy Wh
+5v 10B Wh 12 Wh Or
13
14
15
16
When opening +24V(F4) 10C Bk 2 Rd M Clamp motor
When closing +24V(F4) 11A Br 1 Bl
GND1 11B Rd Bk SW Clamp safety switch
LOW when pressed 11C Or Bk
LOW when activated 12A Yw 1 Or S Clamp solenoid
+24V(F6) 12B Gr 2 Rd
GND1 12C Bl Bk SEN Ø ° sensor (Angular sensor)
LOW when magnet detected 13A Vt Gy 180 ° sensor
LOW when magnet detected 13B Gy Wh
+5V 13C Wh Or
+5V 14A Bk SEN Vertical centering sensor
LOW when blocked 14B Br
GND1 14C Rd
+5V 15A Or SEN Paper feed clutch sensor
LOW when blocked 15B Yw
GND1 15C Gr
GND1 16A Bl Bk SEN Paper rcv. sensor 1(rcv.)
LOW when blocked 16B Vt Wh
+5V 16C Gy Or
GND1 17A Wh Bk SEN Paper rcv. sensor 2(rcv.)
LOW when blocked 17B Bk Wh


GND1 18A Rd Bk
HIGH in master det. 18B Or Wh SEN Master end sensor(send)
+5V 18C Yw Or Master det. sensor
GND1 19A Gr SW Master loading unit switch
LOW when pressed 19B Bl
GND1 19C Vt Bk
LOW in master det. 20A Gy Wh SEN Master sensor
+5V 20B Wh Or
LOW in operation 20C Bk 1 Bl F Loading fan
+24V(F4) 21A Br 2 Rd
LOW in operation 21B Rd 1 Bl F Separation fan
+24V(F5) 21C Or 2 Rd
GND1 22A Yw 1 Yw Wh SEN Master rmv. sensor(send)
+5V 22B Gr 2 Gr Or
GND1 22C Bl 3 Bl Bk SEN Master rmv. sensor(rcv)
LOW when blocked 23A Vt 4 Vt Wh
+5V 23B Gy 5 Gy Or
GND1 23C Wh 6 Wh Bk SEN Master loading sensor
LOW in master det. 24A Bk 7 Bk Wh
+5V 24B Br 8 Br Or
GND1 24C Rd 9 Rd SW Disposal box set switch
HIGH when pressed 25A Or 10 Or
LOW in operation 25B Yw 11 Yw 1 Bl M M. R. V. T. motor
+24V(F5) 25C Gr 12 Gr 2 Rd
LOW in operation 26A Bl 13 Bl 1 Br S Master removal solenoid
+24V(F5) 26B Vt 14 Vt 2 Rd
GND1 26C Gy 15 Gy Bk SW Feed tray down button(N. O)
LOW when pressed 27A Wh 16 Wh Bk
Write P/M(A pulse) 27B Bk 1 Pk M Write pulse motor
Write P/M(Com. A pulse) 27C Br 2 Bk
Write P/M(B pulse) 28A Rd 3 Gr
Write P/M(Rev. A pulse) 28B Or 4 Wh/Rd
Write P/M(Com. B pulse) 28C Yw 5 Wh
Write P/M(Rev. B pulse) 29A Gr 6 Wh/Gr
GND1 29B Bl 1
ST-1 29C Vt 2
ST-2 30A Gy 3
IB-READ/ 30B Wh 4
MH-READ/ 30C Bk 5
PI-V 31A Br 6
+5V 31B Rd 7
+12V 31C Or 8
H-RESET 32A Yw 9
ST-3 32B Gr 10


CN8
48 PINS
GND1
GND1
Ink sensor(HIGH with ink)
Overflow sensor (HIGH with ink)
+12V
+24V(F5)
Inking motor (HIGH in operation)
GND1
Ink bottle switch (LOW when pressed)
GND1
Det.A sensor (LOW when blocked)
Det.C sensor (LOW when blocked)
+5V
GND1
Drum size data signal 1
Drum size data signal 2
Drum size data signal 3
Drum size data signal 4
Ink color data signal 1
Ink color data signal 2
ADGND
Temp. det. sensor
ADVcc
Not used
Drum Control PCB CN1
Drum Control PCB CN2
GND1
LOW when pressed
LOW when lit
+24V(F4)
GND1
LOW when pressed
GND1
HIGH when closed
LOW in operation
+24V(F5)
LOW in operation
+24V(F5)
LOW in operation
+24V(F5)
GND1
LOW when connected
SW
Drum home position button
LAMP
Drum home position lamp
SW
Drum set switch
SW
Front cover set switch
S
Lock solenoid
MC
Master counter
TC
Copy counter
Counter set signal


CN9
50 PINS
LOW in operation
+24V(F4)
GND1
LOW when pressed
GND1
LOW when pressed
GND1
+5V
GND1
+5V
Print pos. motor (A pulse)
Print pos. motor (Com. A pulse)
Print pos. motor (B pulse)
Print pos. motor (Rev. A pulse)
Print pos. motor (Com. B pulse)
Print pos. motor (Rev. B pulse)
LOW in operation
+24V(F5)
Reduce pressure +24V(F4)
Increase pressure +24V(F4)
GND
Press. CTL encoder
+5V
+5V
HIGH when blocked
GND1
+5V
LOW when paper detected
GND1
+5V
LOW when paper detected
GND1
ADGND
Paper size potentiometer
ADVcc
GND1
LOW in magnet detection
LOW in magnet detection
LOW in magnet detection
LOW in magnet detection
TO MOTOR CTL PCB(CN1)
Wing motor
Jump wing switch 1
Jump wing switch 2
Paper rcv. sensor 1 (send)
Paper rcv. sensor 2 (send)
Print pos. motor
Pressure solenoid
Pressure CTL motor
Pressure CTL encoder
Pressure CTL sensor
Paper det. sensor
Paper size det. sensor
Paper size potentiometer
Paper cassette size sensor
Paper feed tray lower limit sensor
SF3000 (option)
Paper return motor(option)
GND1
+5V
GND1
LOW when blocked
LOW when blocked
+5V
LOW in operation
+24V(F5)
Paper feed det. sensor(send)
Paper sensor(send)
Paper feed det. sensor(rcv)
Paper sensor(rcv)
Stack paper feed switch
Paper feed clutch
CN10
15 PINS
GND1
GND1
RESET/
Elevator CTL1
Elevator CTL2
Main motor CTL1
Main motor CTL2
Main motor CTL3
Main motor CTL4
Det. A sig.
Paper tray pos. sig.
Lower limit sig.
Paper feed safety sig.
Main motor stop sig.
P-F pressure adj. sw
Motor CTL PCB CN2